

# MIRAI Cold LNG

## GAS LIQUEFACTION



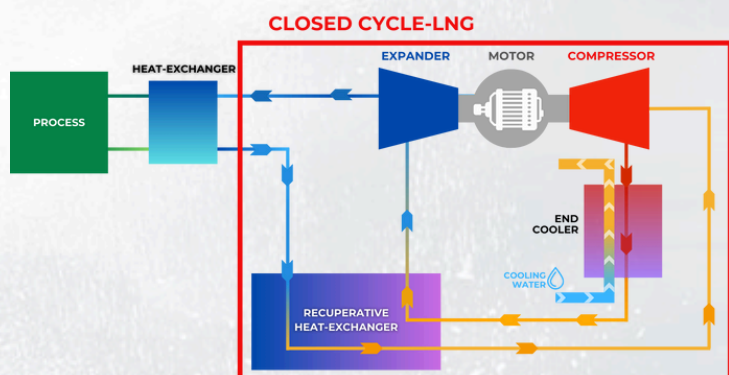
### MIRAI COLD LNG FOR GAS LIQUEFACTION



The **MIRAI Cold LNG** is an advanced solution precisely engineered for the **precooling and liquefaction of biomethane**. At the core of this system lies its innovative **oil-free turbo compressor/expander**. This key component is driven by a sophisticated inverter, allowing for seamless adjustment of RPM (revolutions per minute). This feature ensures optimal performance tailored to specific operational needs. Moreover, the system is designed for peak energy efficiency, making it an **environmentally conscious choice for biomethane processing**. Its state-of-the-art technology and design make the MIRAI Cold LNG a leader in its class for biomethane liquefaction applications.

### PRODUCT SPECIFICATIONS

Model name	MIRAI Cold LNG	MIRAI Cold 140 LNG
REFRIGERANT	N2 (R728)	
POWER SUPPLY	~3 PE, 400 V, 50 Hz	
NOISE LEVEL	75 dB	
SYSTEM COOLING	water-cooled	
RATED MOTOR POWER	from 50 kW to 140 kW	
DIMENSIONS (LxWxH)	238 x 232 x 219 cm	
WEIGHT OF THE MACHINE	3 800 - 4 000 kg	
WEIGHT OF THE ELECTRICAL CABINET	300 kg	
TEMPERATURE RANGE	from -70°C to -140°C	



### HOW THE SYSTEM WORKS

The heart of the system is a **turbo-module, developed and manufactured by MIRAI Intex®**. The technology is based on the heating capability of nitrogen during compression and cooling down during expansion. A key technological feature is that the turbo expander and compressor are located on the same shaft. The energy produced during the expansion process is transferred through the shaft to the compressor, which allows to **reduce energy consumption up to 30 %**.

### PRODUCT VARIANTS

#### MIRAI Cold 50 LNG



#### MIRAI Cold 90 LNG



## PRODUCT ADVANTAGES

### NO VIBRATION LOW NOISE

Turbo-module design reduces noise and vibration

### SAFE SOLUTION

No chemically active substances, no risk of fire or explosion

### TEMPERATURE STABILITY

The frequency inverter allows you to maintain the accuracy of 0.5K, temperature uniformity

### REDUCTION OF OPERATING COSTS

Long equipment life cycle, low maintenance costs, absence of lubricants in the system

### COMPLIANCE WITH LEGISLATION

Compliance with all international standards / regulations, without special safety requirements

### ENERGY EFFICIENCY

Low power consumption, full system energy recovery

### ENVIRONMENTALLY FRIENDLY

The system works without the use of refrigerants and is safe for the environment and the most "green" among all Bio-LNG production systems

### STABILITY OF WORK

Stable continuous work, minimal loads on the power grid

## INSTALLATION OPTIONS

**MIRAI Cold LNG has 2 installation options: in-house and external**, providing the possibility for seamless integration into any technical process. Both options are installed outside the main liquefaction process and connected through the wall. Thanks to this decision, MIRAI Cold LNG is not a subject to ATEX regulation.

## WHY USE LNG TECHNOLOGY

**LNG offers cleaner energy, emitting fewer pollutants and greenhouse gases than traditional fuels. Its versatility makes it suitable for various applications, contributing to improved air quality and energy security while offering efficient storage and transport conditions.**

Learn more about the MIRAI Intex® LNG solutions. Send a request to [sales@mirai-intex.com](mailto:sales@mirai-intex.com) or use the [MIRAI application configurator](#).

